UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

FILE

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OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: Pendimethalin - Review of Pesticide Poisoning Incident Data

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TO: John Leahy, Occupational & Residential Exposure Branch

The following data bases have been consulted for the poisoning incident data on the active ingredient pendimethalin (PC Code: 108501):

1) OPP Incident Data System (IDS) - reports of incidents from various sources, including registrants, other federal and state health and environmental agencies and individual consumers, submitted to OPP since 1992.

2) Poison Control Centers - as the result of Data-Call-Ins issued in 1993, OPP received poison control center data covering the years 1985 through 1992 for 28 organophosphate and carbamate chemicals. Most of the national Poison Control Centers (PCCs) participate in a national data collection system, the Toxic Exposure Surveillance which obtains data from 70 centers at hospitals or universities. PCCs provide telephone consultation for individuals and health care providers on suspected poisonings, involving drugs, household products, pesticides, etc.

3) California Department of Food and Agriculture (replaced by the

Department of Pesticide Regulation in 1991) - California has collected uniform data on suspected pesticide poisonings since 1982. Physicians are required, by statute, to report to their local health officer all occurrences of illness suspected of being related to exposure to pesticides. The majority of the incidents involve workers. Information on exposure (worker activity), type of illness (systemic, eye, skin, eye/skin and respiratory), likelihood of a causal relationship,and number of days off work and in hospital are provided.

4) National Pesticide Telecommunications Network (NPTN) - NPTN is a toll-free information service supported by OPP. A ranking of the top 200 active ingredients for which telephone calls were received during calendar years 1984-1991, inclusive has been prepared. The total number of calls was tabulated for the categories humans, animals, calls, incidents and others.

Pendimethalin Review

IDS

As of March 19, 1996, there were 12 IDS reports. Seven were referred to EFED because they involved fish and wildlife incidents or crop damage. Two of the remaining 5 involved domestic animals. In the other 3 involving 5 humans, signs of systemic illness including vomiting, diarrhea, chills and shakiness were reported. Three people were hospitalized when they were exposed to a mixture of pesticides, including pendimethalin, and nitrogen known to produce an odor.

California Data

There were six reports in the California data base from 1982 through 1992. The types of illnesses reported by year are as follows:

1986 - 1 skin effect
1987 - 1 skin effect
- 1 eye effect
1988 - 2 systemic effects
1991 - 1 systemic effect

NPTN

Pendimethalin ranked 41st on a list of the top 200 active ingredients for which NPTN received calls from 1982-1991. There were 682 calls concerning 142 incidents, 91 in humans, 35 in animals and 16 others. Given the comparatively few reports in the other two data bases, a print-out of all the NPTN incidents on this chemical was requested. Oregon State University, the contractor, supplied 190 records of the calls classified as incidents from 1980 through December 1995. The majority of the calls involved exposure

to pendimethalin, whether alone or in combination with other chemicals, in lawn care or turf products. Whereas the cases in the California data base are reported by physicians, calls to NPTN come from a variety of sources, including the general public. Homeowners may easily call the toll free NPTN line to get advice on suspected pesticide exposure. This may account for the significant higher number of cases reported to NPTN as compared to the other two data bases.

Those calls which involved **exposure to pendimethalin alone** were categorized in the following table. It should be emphasized that all reports are included in the table, regardless of their certainty designation (assessment of causal relationship between exposure and signs of illness).

Species	Number Affected	Signs of Illness*		
		Systemic	Dermal	Eye
Human	27	12	15	3
Dogs	16	10	6**	
Cats	2	2		
Calf	1	1		
Ducks/Geese	3	3		

* Multiple signs of illness per individual case may be reported
** Included four reports of fur turning yellow

Conclusions and Recommendations

Based on the number of calls to the National Pesticide Telecommunications Network, exposure to pendimethalin in lawn care and turf products is of concern to the general public. Although the dermal irritation studies with pendimethalin were negative, there is limited evidence from the NPTN reports that products containing this active ingredient are dermally irritating.